



A NEW SPECIES OF *STELLETA*
(PORIFERA, DEMOSPONGIAE) FROM THE SOUTHWESTERN ATLANTIC⁽¹⁾

(With 3 figures)

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ABSTRACT: *Stelletta beae* sp.nov. is described from the northern sector of the São Paulo state coastline, in the Tropical south-western Atlantic. *Stelletta purpurea* sensu MOTHES-DE-MORAES (1985, as *Myriastr*) and MOTHES & LERNER (1994) are considered conspecific with the new species, which appears closer to *S. paucistellata*, from west Africa, rather than to *S. purpurea* sensu RIDLEY (1884), from northern Australia. A key for the *Stelletta* of the Tropical Atlantic with oxeas smaller than 1000µm is provided.

Key words: Taxonomy, Porifera, South-western Atlantic, Astrophorida, Ancorinidae, *Stelletta*, new species, São Sebastião Channel.

RESUMO: Nova espécie de *Stelletta* (Porifera, Demospongiae) do Atlântico Sul-Occidental.

Stelletta beae sp.nov. é descrita para o litoral norte do estado de São Paulo, no Atlântico Tropical ocidental. *Stelletta purpurea* sensu MOTHES-DE-MORAES (1985, como *Myriastr*) e MOTHES & LERNER (1994) são consideradas coespecíficas com a nova espécie, que aparenta ser mais próxima de *S. paucistellata*, do oeste da África, que de *S. purpurea* sensu RIDLEY (1884), do norte da Austrália. Oferece-se uma chave de identificação para as *Stelletta* do Atlântico Tropical com óxeas menores que 1000µm.

Palavras-chave: Taxonomia, Porifera, Atlântico ocidental, Astrophorida, Ancorinidae, *Stelletta*, espécie nova, Canal de São Sebastião.

INTRODUCTION

Stelletta Schmidt, 1862 is widely spread in all the oceans, with about 180 species hitherto described (Van Soest, pers. comm.), some 40 of which from the Atlantic Ocean. The taxonomic study of these sponges has special importance not only for their high diversity, but also due to the discovery of biologically active metabolites with antifungal properties in these sponges (HIROTA, MATSUNAGA & FUSETANI, 1990; MATSUNAGA & FUSETANI, 1994).

Six species of *Stelletta* were recorded from Brazil, viz. *S. anancora* (Sollas, 1886), 13-17m depth (Bahia); *S. crassispicula* (Sollas, 1886), 13-22m depth (Bahia); *S. gigas* (Sollas, 1886; St. Paul Rocks); *S. hajdui* Lerner & Mothes, 1999, 200m depth (Rio Grande do Sul); *S. incrustata* (Uliczka, 1929), 35.5m depth (Maranhão) and *S. purpurea* Ridley, 1884, intertidal (Rio de Janeiro and Santa Catarina).

Our faunistic survey yielded fifteen specimens preliminarily identified as *Stelletta* aff. *paucistellata* (Lévi, 1952). Comparison with the type specimen showed both to be slightly different, possibly sister species on both sides of the Atlantic Ocean. Further analysis revealed MOTHES-DE-MORAES' (1985) and MOTHES & LERNER's (1994) *Myriastr/Stelletta purpurea* to be conspecific with the material studied here, which in turn is distinctly different from *Stelletta purpurea*'s type specimen (reexamined). The Southwestern Atlantic material is considered a new species.

MATERIAL AND METHODS

The São Sebastião Channel is located on the northern sector of the São Paulo state coastline, between the latitudes of 23°43'S and 23°53.5'S and longitudes of 45°20'W and 45°30'W.

The material studied here is deposited in the collections of the Museu Nacional - Rio de

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Janeiro (MNRJ and UFRJPOR) of Universidade Federal do Rio de Janeiro, and the Museu de Ciências Naturais (MCN) of Fundação Zoobotânica do Rio Grande do Sul. Figure 1 shows the localities sampled during the survey as well as other localities along the Brazilian Coast where the species has been previously found.

Specimens were collected at very shallow waters (about 3m deep). When taken, field notes were restricted to colour, and eventually some surface characteristics. Microscopic preparations of dissociated spicules and thick sections were made according to prevailing methods (e.g. RÜTZLER, 1978; MOTHES-DE-MORAES, 1978). Preparations for analyses at the SEM were obtained according to the protocols outlined by HAJDU (1994). SEM machines were made available at the Institute for Biodiversity and Ecosystem Dynamics, of the

University of Amsterdam; and at the Instituto de Biofísica Carlos Chagas Filho, of the Universidade Federal do Rio de Janeiro.

RESULTS

Systematics section

Order Astrophorida Sollas, 1888

Family Ancorinidae Schmidt, 1870

Genus *Stelletta* Schmidt, 1862

Definition – Ancorinids with triaenes and euasters. Microxeas and microrhabds are absent.

Stelletta beae sp.nov.

Myriastria purpurea sensu MOTHES-DE-MORAES, 1985:322 (non *Stelletta purpurea* Ridley, 1884).

Stelletta purpurea sensu MOTHES & LERNER, 1994:50 (non *Stelletta purpurea* Ridley, 1884).

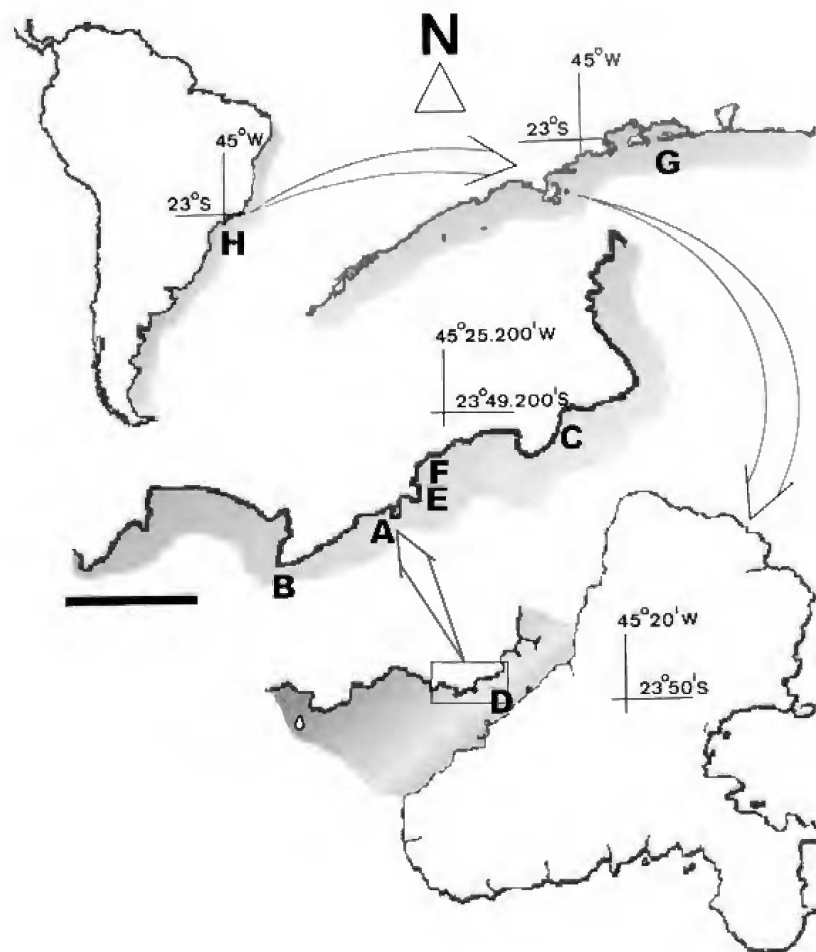


Fig.1- Map showing South America, a section of the southeastern Brazilian coastline, Ilha de São Sebastião; and, in detail, the continental face of São Sebastião Channel, with the collecting localities indicated: (a) Ponta do Baleeiro, São Sebastião (23°49.727'S – 45°25.364'W), (b) Praia de Barequeçaba, São Sebastião (23°49.900'S – 45°25.953'W), (c) Praia Preta, São Sebastião (23°49.247'S – 45°24.435'W), (d) Portinho, Ilhabela (23°50.582'S – 45°24.427'W), (e-f) Praia do Cabelo Gordo and Praia das Pitangueiras, São Sebastião (23°49.564'S – 45°25.303'W).

Material studied – Holotype: BRAZIL, SÃO PAULO, São Sebastião: Ponta do Baleeiro, intertidal, coll. M.G.B.S. Moreira, 05/XII/1988, MNRJ 3702. Paratypes: BRAZIL, SÃO PAULO, São Sebastião: Praia de Barequeçaba, 1m depth, coll. E.Hajdu, 23/I/1996, MNRJ 280-282; Praia das Pitangueiras, 0.5-1m depth, coll. E.Hajdu, 17/VI/97, MNRJ 483; Praia das Pitangueiras, 0.5-1m depth, coll. E.Hajdu, 16/VI/97, MNRJ 487, 491; Ilhabela, Portinho, 2m depth, coll. E.Hajdu, 19/VI/97, MNRJ 513, 575; Canal de São Sebastião, intertidal, coll. C.Lopes, MNRJ 596; Praia Preta, 1.5m depth, coll. E.Hajdu, 03/I/1996, MNRJ 712; Praia de Barequeçaba, 1m depth, coll. E.Hajdu, 08/I/1996, MNRJ 728-729; Praia de Barequeçaba, coll. W.M.Lopes, VII/1967, UFRJPOR 111; Praia do Cabelo Gordo, 2m depth, coll. E.Hajdu, 06/XII/1988, UFRJPOR 3606.

Additional material – BRAZIL, SANTA CATARINA, Porto Belo, MCN 819 (= *Myriastras purpurea* sensu MOTHES-DE-MORAES, 1985:322); Bombinhas, MCN 1056, 1454 and 1481 (= *Stelletta purpurea* sensu MOTHES & LERNER, 1994:50); RIO DE JANEIRO, Baía de Sepetiba, MCN 1033 (= *Myriastras purpurea* sensu MOTHES-DE-MORAES, 1985:322).

Comparative material

Myriastras paucistellata Lévi, 1952, syntypes – SENEGAL, Fann: MNHN-LBIM-DCL 3672.

SENEGAL, Pointe Bernard: MNHN-LBIM-DCL 3673. *Stelletta purpurea* Ridley, 1884, type – AUSTRALIA, Arafura Sea, Torres Strait, Port Darwin: BMNH 1882.2.23.298.

Stelletta purpurea (det. M. Burton) - INDONESIA, 'Siboga' Exp., Stn. 310: ZMA 2207.

Diagnosis – *Stelletta beae* sp.nov. possesses a single category of oxeas always smaller than 1000µm, ortho- and anatriaenes, and a single category of tylasters smaller than 20µm.

Description – Specimens subspherical, frequently ca. 5x5x7mm in dimensions, largest one about 30x24x11mm. Holotype 27x26x20mm. Preserved specimens only barely compressible. With a microhispid surface. Surface peel only slightly visible in cross sections. Attached debris more common on basal surface. Holotype with one oscule on its side, 1mm wide. Specimen UFRJPOR 111 with four oscules, 1-1.5mm wide, grouped two by two. Live colour ranged from white to light-purple, to dark-gray. Colour in preserved specimens white, yellowish-white, or light-gray. Specimen MNRJ 282 partially overgrown by a *Haliclona* (Chalinidae, Haplosclerida).

Ectosomal skeleton – Thin membrane on top of cladomes of orthotriaenes, frequently pierced by those, oxeas and anatriaenes. Tylasters in great



Fig.2- *Stelletta beae* sp.nov. Skeleton structure and orientation of trienes (MNRJ 729). Scale bar = 100µm.

numbers near surface. Choanosomal skeleton, radially arranged, dense, with ortho- and anatriaenes as the most conspicuous elements (Fig.2).

Spicules (Tab.1, Fig.3D, F, I): Megascleres – Oxeas, slender to robust, mostly fusiform, slightly curved, tapering gradually or abruptly, length 252-663.8-931 μ m, width 6-21.6 μ m. Orthotriaenes I, clades slender, regular, tapering gradually, cladome width 97-199.3-310 μ m, rhabdome relatively short, robust, straight, tapering gradually, rhabdome length 262-494.7-737 μ m,

rhabdome width 9.6-40.8 μ m. Orthotriaenes II, clades slender, tapering gradually, cladome width 19-55.9-112 μ m, rhabdome slender, straight, tapering gradually, rhabdome length 87-193.6-315, rhabdome width 2.4-9.6 μ m. Anatriaenes, clades very short, blunt, cladome width 7-24.2-30 μ m, rhabdome slender, straight, tapering gradually, rhabdome length 155-585.2-766 μ m, rhabdome width 4.8-12.5 μ m. Microscleres – Tylasters, rays long, slender, with few spines, diameter 7-11.3-14 μ m.

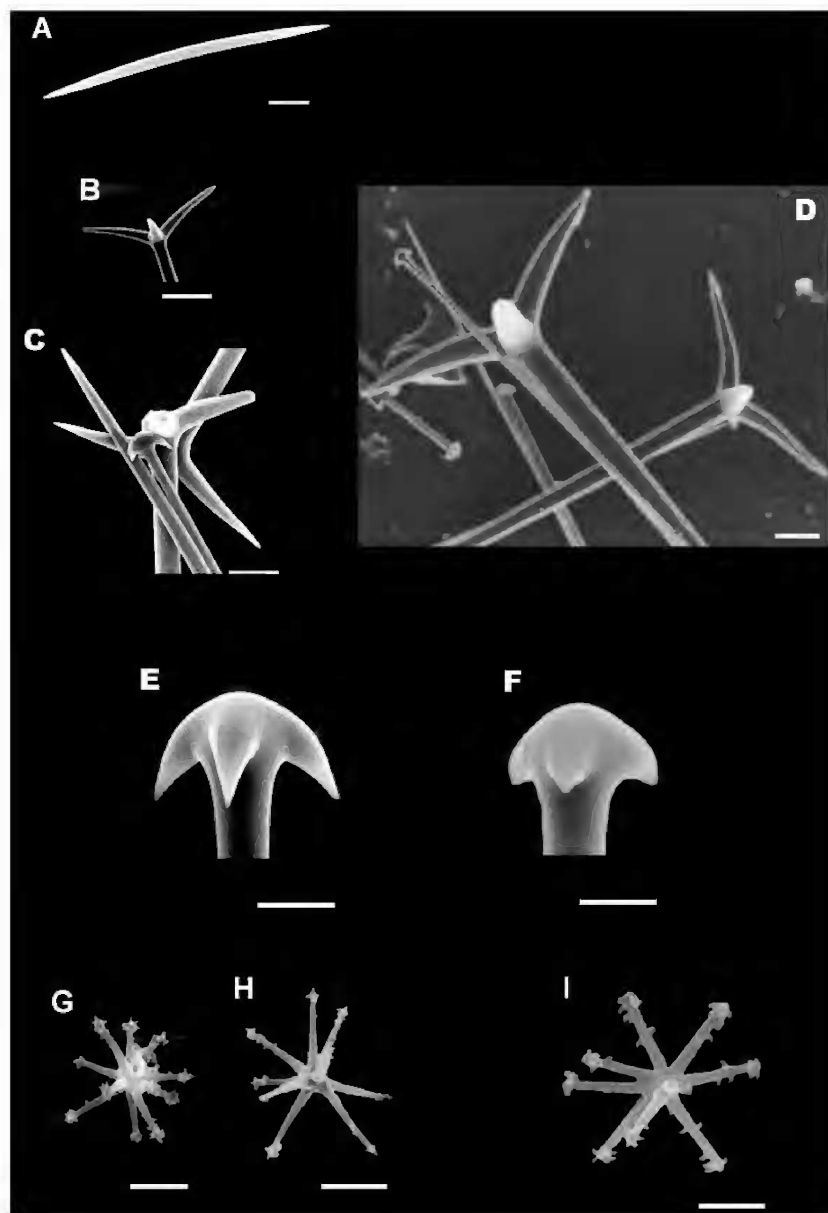


Fig.3- SEM micrographies of the spicules of *Stelletta paucistellata* (Lévi, 1952) (a-c, e, g-h) and *Stelletta beae* sp.nov. (d, f, i): (a) small oxea, (b) small orthotriaene, (c) large orthotriaenes and anatriaenes, (d) large orthotriaenes and anatriaene, (e) anatriaene with longer and sharper clades, (f) anatriaene with shorter and blunt clades, (g-i) tylasters. Scale bars = 10 μ m (a, e-f); 50 μ m (b-d); 5 μ m (g-i).

TABLE 1

Micrometric data for the spicule complement of the holotype and selected paratypes of *Stelletta beae* sp. nov., *Stelletta purpurea* Ridley, 1884 and *Stelletta paucistellata* (Lévi, 1952)

Specimens	Oxeas (length - width)		Orthotriaenes (rhabdome- cladome - width)	Anatriaenes (rhabdome - cladome - width)	Tylaster
MNRJ 3702 Holotype	252- 696.5 -776 6- 12.5 -18.9	I	262-486.9-611 97- 166.4 -238 12- 19.9 -24	475- 599.5 -689 22- 25.8 -30	10.3-13.2
		II	165- 210.0 -281 28- 53.4 -78 3.6- 5.2 -9.6	6- 7.6 -10.8	
MNRJ 280 Paratype	330- 635.8 -786 4.8- 11.5 -18	I	388- 491.8 -669 136- 223.6 -281 9.6- 22.4 -40.8	621- 681.7 -757 21.3- 24.8 -28.1	9.6- 11.6 -14.4
		II	112- 174.6 -291 29- 50.4 -87 2.4- 4.9 -8.4	4.8- 6.8 -7.2	
MNRJ 281 Paratype	456- 728.5 -883 8.4- 12.7 -16.8	I	359- 549.3 -737 155- 216.9 -291 14.4- 25.1 -33.6	155- 620.8 -766 9.7- 22.8 -26.2	9.6- 13.0 -14.4
		II	155- 219.2 -262 29- 56.6 -78 2.4- 4.6 -7.2	4.8- 6.5 -7.2	
MNRJ 282 Paratype	524- 750.3 -931 10.8- 17.4 -21.6	I	417-495 165- 246.1 -281 19.2- 33.0 -39.6	330- 558.2 -718 18.4- 23.1 -26.2	9.6- 11.5 -14.4
		II	155-184 38.8 2	6- 7.6 -9.6	
MNRJ 712 Paratype	369- 662.5 -776 12- 14.3 -16.8	I	291- 449.1 -660 112- 214.4 -301 14.4- 27.8 -36	155- 586.9 -718 7- 22.9 -29	8.4-12
		II	87- 163.5 -213 19- 55.0 -80 2.4- 5.6 -9.6	4.8- 7.7 -9.6	
MNRJ 728 Paratype	272- 586.9 -766 7.2- 12.1 -16.8	I	291- 480.2 -728 102- 175.1 -291 12- 22.7 -28.8	359- 568.4 -660 18.4- 23.4 -27.2	7.2- 10.4 -14.4
		II	97- 173.1 -276 29- 55.4 -97 2.4- 7.2 -9.6	7.2- 7.9 -9.6	
MNRJ 729 Paratype	388- 600.9 -728 6- 11.5 -14.4	I	291- 481.1 -640 146- 196.4 -243 14.4- 23.0 -28.8	437- 525.7 -679 20- 23.5 -27	8.4- 10.3 -12.5
		II	102- 168.8 -213 31- 52.4 -73 4.8- 6.8 -9.6	6- 7.1 -8.4	
UFRJPOR 111 Paratype	417- 665.4 -747 10- 13.7 -20	I	330- 481.1 -572 126- 181.4 -223 17.5- 24.5 -35	301- 631.5 -708 17.5- 26.3 -29.1	9.6- 10.8 -13.2
		II	150- 222.1 -286 39- 63.3 -112 6- 7.9 -9.6	5- 8.7 -12.5	

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Specimens	Oxeas (length - width)		Orthotriaenes (rhabdome- cladome - width)	Anatriaenes (rhabdome - cladome - width)	Tylaster
UFRJPOR 3606 Paratype	340- <u>647.5</u> -825 4.8- <u>11.9</u> -16.8	I II	427- <u>537.8</u> -660 131- <u>238.1</u> -310 14.4- <u>19.6</u> -26.4 141- <u>224.1</u> -315 37- <u>56.1</u> -112 2.4- <u>6.4</u> -9.6	378- <u>494.2</u> -572 20- <u>25.2</u> -29 4.8- <u>6.8</u> -9.6	8.4-12
<i>S. purpurea</i> Ridley, 1884	1500-2000 37		1400-1600 540 45-60	2000 100 35	20-25
<i>S. purpurea</i> type reexamined BMNH 1882.2.23.298	975- <u>1319.4</u> - 1646 15.8- <u>22.1</u> -26.3	I II	799.5- <u>1632.5</u> -2999 50- <u>173.0</u> -368 10.5- <u>30.5</u> -50 310- <u>457.7</u> -649.9 23.7- <u>46.3</u> -68.4 5.3- <u>11.6</u> -18.4	926.2- <u>1658.5</u> -2911 65.7- <u>112.0</u> -136.8 10.5- <u>34.2</u> -22.9	11- <u>16.0</u> -24
<i>S. purpurea</i> sensu MOTHES-DE- MORAES, 1985	700- <u>758</u> -898 142- <u>151</u> -161		184- <u>506</u> -782 147- <u>297</u> -367	620- <u>693</u> -948 21- <u>29</u> -36	8-13-19
<i>S. purpurea</i> sensu MOTHES & LERNER, 1994	446.5-845.5		209-589 95-323	408.5-703 18.4-29.9	85.5-123.5
<i>S. paucistellata</i> LÉVI, 1952	650-850		425-680 65-135	275-700 25	10
<i>S. paucistellata</i> sensu LÉVI, 1959	600-750 4-11		230-600 23-25 3-6		11-12
<i>S. paucistellata</i> Syntype reexamined MNHN-LBIM- DCL 3672	I 349- <u>704.3</u> -922 9.2- <u>12.9</u> -18.4 II 58- <u>78.3</u> -116 2.4- <u>2.7</u> -3.6	I II	399.7- <u>508</u> -624 107.2- <u>153.1</u> -195 4.8- <u>10.3</u> -14.4 135.8- <u>196.9</u> -232.8 9.7- <u>25.2</u> -38.8 2.4- <u>3.8</u> -6	429- <u>592.8</u> -643.5 19.5- <u>23.4</u> -29.3 5.3- <u>6.2</u> -7.9	4.8- <u>10.3</u> -14.4
<i>S. paucistellata</i> Syntype reexamined MNHN-LBIM- DCL 3673	I 446- <u>719.7</u> -786 9.6- <u>10.8</u> -12 II 58- <u>78.5</u> -116 2.4- <u>2.6</u> -3.6	I II	320.1- <u>450</u> -601.4 67.9- <u>118.3</u> -174.6 8.4- <u>11.8</u> -15.6 164.9- <u>206.6</u> -271.6 19.4- <u>27.2</u> -38.8 2.4- <u>4.0</u> -4.8	446.2- <u>604.3</u> -756.6 19.4- <u>27.6</u> -29.1 4.8- <u>6.6</u> -10.8	4.8- <u>10.0</u> -14.4

N = 20 (oxeas' length), 10 (oxeas' width, orthotriaenes, anatriaenes and tylasters), unless stated otherwise. Values in μm .

Distribution and ecology – Known from 23 to 27°S along the Brazilian coast, from Sepetiba Bay, RJ (MOTHES-DE-MORAES, 1985) to Bombinhas, SC (MOTHES & LERNER, 1994).

The species occurs intertidally to 2m deep, on sciaphilous habitats, on the undersides of variably large boulders. Water temperatures range from 14 to 30°C, and only very moderate wave energy was observed.

Etymology – The species is named *Stelletta beae* sp.nov. in honour of Dr. Beatriz Mothes (Bea).

Stelletta paucistellata (Lévi, 1952)

Myriastria paucistellata Lévi, 1952

Material studied – Syntypes: SENEGAL, Fann: MNHN-LBIM-DCL 3672; and Pointe Bernard: MNHN-LBIM-DCL 3673.

Redescription amended from Lévi (1952) – Massive, gobular, small, measuring 1-1.5cm high by 1cm width, with simple oscules situated on top, smooth, velvety surface; cortex is slender, covered by a dermal membrane, numerous groups of pores spread over the

entire surface, connecting to large subdermal cavities. Skeleton composed of radiating bundles of oxeas and triaenes; each bundle supports ectosome into which it ends up. Spicules (Tab.1). Oxeas I, slender, fusiform, variably curved or sinuous, tapering very gradually. Oxeas II, fusiform, slightly curved, tapering abruptly. Orthotriaenes I (verging toward plagio condition), clades slender, regular, tapering gradually, rhabdome straight, tapering gradually. Orthotriaenes II, clades slender to robust, tapering gradually or abruptly, rhabdome slender, straight, tapering gradually. Anatriaenes, clades short, sharp, rhabdomes slender, very curved or sinuous. Microscleres – Tylasters, rays long, slender, with few spines concentrated at the end.

Stelletta purpurea Ridley, 1884

Material studied – Holotype: AUSTRALIA, Torres Straits: BMNH 1882.2.23.298.

Redescription amended from Ridley (1884) – Free, subspherical or suboval. A single circular oscule (about 2mm in diameter in moderate-sized specimens) often present; it leads deeply into the sponge. Surface subpapillose. Colour purple in spirit, when well preserved. Distinct cortical layer of same consistency as central part of sponge, about 7mm wide, with subcortical spaces, and formed (in adult specimens) by space intervening between cladomes and triaenes. Deeper choanosome transparent, brownish yellow; purplish red when approaching the surface, rather granular. Spicules (Tab.1): Oxeas, fusiform, slightly curved or sinuous, tapering gradually. Orthotriaenes I (verging toward plagio or pro condition), clades regular, tapering gradually, rhabdome straight, tapering gradually. Orthotriaenes II, clades regular, relatively robust, tapering gradually or abruptly, rhabdome slender to robust, straight, tapering gradually. Anatriaenes, clades short, robust, curved or bent irregularly, rhabdomes robust, straight, tapering gradually. Microscleres – Tylasters, rays long, slender, with spines concentrated at end.

Remarks – Twenty-two species of *Stelletta* were recorded from both sides of the Tropical Atlantic

(unpublished database by Rob W.M. van Soest), to which the new species is compared. *S. individua* (Schmidt, 1870) was very poorly described as far as spiculation is concerned, but SCHMIDT's (1870) "5 Ankervarietäten" are understood here as indicating a set of triaenes considerably more varied than that seen in the new species described here. *S. pygmaeorum* Schmidt, 1880, of which no material is available, differs from the material described here by the occurrence of plagio- and dichotriaenes, and of micrasters of very small dimensions (2.8-5.8µm in diameter). Of the remaining 20 species, only four possess oxeas, which are consistently smaller than 1000µm in length, viz. *S. grubii* Schmidt, 1862; *S. kallitetilla* De Laubenfels, 1936; *S. paucistellata* Lévi, 1952 and *S. variabilis* Wilson, 1902.

Stelletta grubii (sensu SCHMIDT, 1862) is too poorly characterized to be compared in the absence of a revision of its type material, which has not been undertaken here. It is important to note though, that it was originally described from the Mediterranean, which by itself renders its conspecificity to the Brazilian material very unlikely. *Stelletta grubii* has also been recorded from the Gulf of Mexico by DE LAUBENFELS (1953) and LITTLE (1963), a revision of the status of these identifications being beyond the scope of this article. The material described by DE LAUBENFELS (1953) differs from the new species in its possession of oxeas, which are 500µm long by 16µm thick, of plagio- and anatriaenes (opposed to orthoI, orthoII, and anatriaenes in the new species), and of euasters in two morphological categories (oxyasters and tylasters). The specimens described by LITTLE (1963) differ from the new species in their considerably larger oxeas (885-1560µm) and anatriaenes (675-1416µm). The descriptions by SCHMIDT (1862) and by DE LAUBENFELS (1953) show plagiotriaenes with cladi, which are comparatively much shorter and stouter than those in the new species.

Stelletta kallitetilla, as redescribed by WIEDENMAYER (1977), from the Bahamas, has protriaenes (490-750µm long) in a single category opposed to two categories of

orthotriaenes in the new species. Cladomes are only ca. 10-70µm wide in the former as opposed to 87-315µm in the new species. Additionally, *S. kallitetilla*'s shape is typically convoluted (like a cauliflower sensu DE LAUBENFELS, 1936), while the new species is more often smoothly subspherical.

Reexamination of *Stelletta paucistellata*'s type material revealed some features not mentioned in the original description (Tab.1), viz. presence of a second category of much smaller oxeas (58-116µm long), larger oxeas as small as 350µm, and orthotriaenes that are clearly divisible in two size categories (136-233µm and 400-624µm long). This is the closest species to the Brazilian material, but can still be set apart by a series of smaller traits, viz. presence of the smaller category of oxeas, and of anatriaenes with cladi which are conspicuously longer and sharper, and rhabdomes which are frequently sinuous. It is concluded that these species are most likely sister-species on both sides of the Atlantic Ocean, a feature possibly exhibited by other species in the genus (e.g. *S. anancora/ crassispicula/ gigas* complex; BURTON, 1954), as well as in other demosponge genera (e.g. *Acarnus*; VAN SOEST, HOOPER & HIEMSTRA, 1991).

Stelletta variabilis (sensu WILSON, 1902) has oxeas, orto-, and anatriaenes, which can be much larger (up to 1600, 1700 and 2210µm, respectively). WELLS, WELLS & GRAY (1960; as *Myriastras fibrosa* (Schmidt); = *S. variabilis*, cf. PULITZER-FINALI, 1986) material is distinguished from the new species by its possession of two markedly distinct categories of oxeas (168-230 and 700-950µm long) as opposed to a single category in the new species (252-931µm long); as well as of anatriaenes up to 1000µm long with cladomes up to 100µm wide, instead of a maximum length of 766µm and cladomes only up to 30µm wide in the new species. The conspecificity of this specimen to those described by WILSON (1902) is not entirely sure.

Another species which bears on the characterization of the new species described here is *Stelletta purpurea*, erroneously cited

from Brazil. MOTHEs-DE-MORAES (1985) recorded for the first time *S. purpurea* for the Brazilian Coast (Rio de Janeiro State, as *Myriastras purpurea*). MOTHEs & LERNER (1994) confirmed the record (Santa Catarina State, as *Stelletta purpurea*). An analysis of their descriptions indicated these specimens to be conspecific to the new species described here, instead. The geographic distribution of *S. beae* sp.nov. is widened thus, yet still confined to the limits of the Paulista Biogeographic Province (e.g. PALACIO, 1982).

It is beyond the scope of this study to revise the species *S. purpurea* comprehensively. The move adopted here is an objective one. The type specimen, despite remarkable similarities in the shape of its spicule complement, presents also considerable differences, notably the much larger size of its megascleres and the shape of the clades of its anatriaenes, longer and sharper (Tab.1), when compared to the Brazilian material presently described as a new species. This, coupled with their occurrence on nearly opposite corners of the globe (Torres Strait and Arafura Sea, as opposed to the southwestern Atlantic) is taken as sufficiently indicative of the status of both as distinct species. Further support for such a decision is derived from the ever increasing evidence that species once regarded as widely distributed across oceanic dispersal barriers, are in effect sibling (or not even so) complexes (refer to articles by SOLÉ-CAVA & colls.; e.g. SOLÉ-CAVA *et al.*, 1991).

A revision of the Indo west Pacific records of the species, following a preliminary assay by BURTON (1926), should clarify the question of *S. purpurea*'s supposed variability. The Indonesian specimen studied here for comparison (ZMA 2207), possesses megascleres which are consistently larger than those in the type (oxeas, 450-4000µm, probably two categories; orthotriaenes, rhabdomes 600-4000µm, cladomes 120-600µm, probably two categories; anatriaenes, rhabdomes 1200-4000µm, cladomes 100-180µm; Tab.1), and its conspecificity to RIDLEY's (1884) material is regarded at least as uncertain.

IDENTIFICATION KEY FOR THE SPECIES OF *STELLETTA*
FROM THE TROPICAL ATLANTIC WITH OXEAS SMALLER THAN 1000µm

1. Oxeads in two clear-cut size categories 2
Oxeas in one size category 3
2. Orthotriaenes-I and -II, anatriaenes < 600µm common *S. paucistellata*
Orthotriaenes-I, anatriaenes normally > 700µm *S. variabilis* sensu WELLS, WELLS & GRAY (1960)
3. Sponges (sub)spherical, oxeads common, with orthotriaenes and anatriaenes 4
Sponges like a cauliflower, oxeads uncommon/rare, with orthotriaenes and anatriaenes *S. kallitella*
4. Sponges can be over 10cm in diameter; cladomes of the orthotriaenes-I short, stout, ca. 60µm wide
..... *S. grubii* sensu LAUBENFELS (1953)
Sponges always smaller than 5cm in diameter, cladomes of the orthotriaenes-I long, relatively slender, can be larger than 200µm *S. beae* sp.nov.

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